

## Graphing and Properties of Ellipses

Date\_\_\_\_\_ Period\_\_\_\_

**Identify the center, vertices, co-vertices, foci, length of the major axis, and length of the minor axis of each.**

1)  $\frac{x^2}{49} + \frac{y^2}{169} = 1$

2)  $\frac{x^2}{36} + \frac{y^2}{16} = 1$

3)  $\frac{x^2}{95} + \frac{y^2}{30} = 1$

4)  $\frac{x^2}{169} + \frac{y^2}{64} = 1$

5)  $\frac{x^2}{64} + \frac{(y-6)^2}{121} = 1$

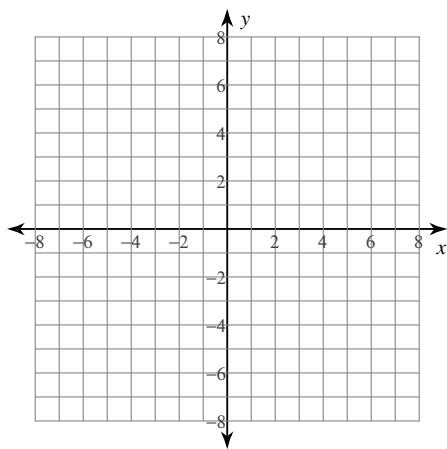
6)  $\frac{(x+5)^2}{81} + \frac{(y-1)^2}{144} = 1$

$$7) \frac{(x-3)^2}{49} + \frac{(y-9)^2}{4} = 1$$

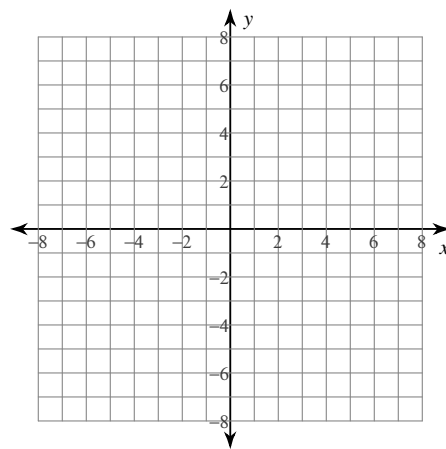
$$8) \frac{x^2}{64} + \frac{(y-8)^2}{9} = 1$$

**Graph each equation.**

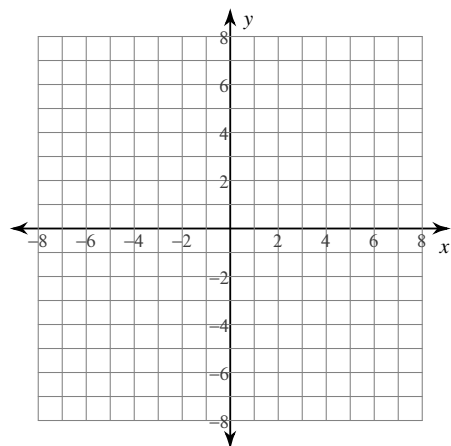
$$9) \frac{x^2}{4} + \frac{y^2}{9} = 1$$



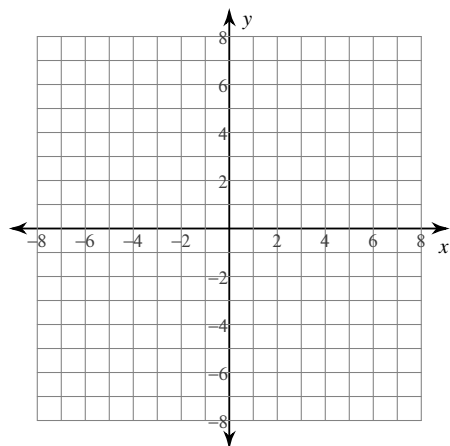
$$10) \frac{x^2}{49} + y^2 = 1$$



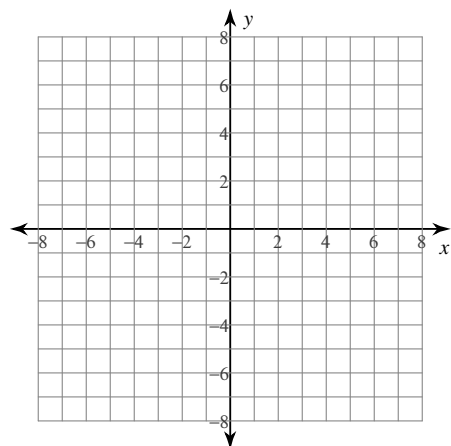
$$11) \frac{x^2}{36} + \frac{y^2}{25} = 1$$



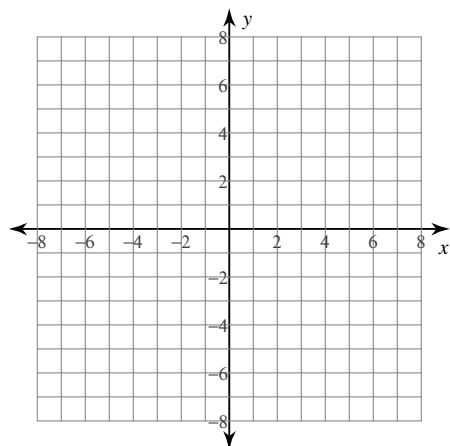
$$12) \frac{x^2}{9} + \frac{y^2}{49} = 1$$



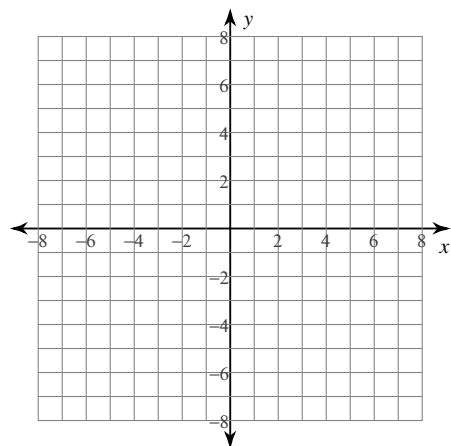
$$13) \frac{x^2}{49} + \frac{(y-3)^2}{16} = 1$$



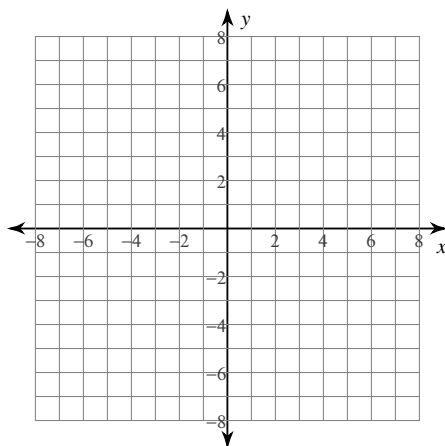
$$14) \frac{(x-1)^2}{4} + \frac{y^2}{49} = 1$$



$$15) \frac{x^2}{49} + \frac{(y-1)^2}{9} = 1$$



$$16) (x+5)^2 + \frac{y^2}{49} = 1$$



**Identify the length of the major axis, length of the minor axis, length of the latus rectum, and eccentricity of each.**

$$17) -16y + 52 = -2x^2 - 8x - y^2$$

$$18) 4y^2 - 338x + 32y = -169x^2 + 443$$

$$19) \frac{(x+4)^2}{4} + \frac{(y+9)^2}{64} = 1$$

$$20) 126y + 9y^2 - 8x - 131 = -4x^2$$